Response to Office Action

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Entitled: Method and Systems for Rehabilitating and Retraining the Neck Musculature

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1. (currently withdrawn) A method for unilizing inhibitory relaxation for the neck muscles, said method comprising:

   Providing a device for fitting around the neck and over the shoulders of an individual;
   Providing a mechanism for grasping the ends of the device;
   Placing said device around neck of an individual;
   Said individual grasping said device with crossed arms; and
   Contacting a first set of neck muscles slightly to relax the opposing set of neck muscles.
2. (currently withdrawn) The method of claim 1 wherein said step of relaxing a first set of muscles includes:

Stretching the neck muscles in a first direction over said device to contract the muscles on that side of the neck while relaxing the opposing muscles.

3. (currently withdrawn) The method of claim 2 wherein said method further includes the step of:

Stretching the neck muscles in a second diretion over said device to contract the muscles on that side of the neck while relaxing the opposing muscles.

4. (currently withdrawn) The method of claim 1 wherein said step of contracting a first set of neck muscles includes:

Stretching the neck muscles in opposing lateral directions over said device.

5. (currently withdrawn) The method of claim 1 wherein said step of contracting a first set of neck muscles includes:

Stretching the neck muscles in forward and backward directions over said device.

6. (currently withdrawn) The method of claim 1 wherein said step of contracting a first set of muscles includes:

Stretching the neck muscles in a rotational direction over said device.

7. (currently withdrawn) The method of claim 1 wherein said neck muscles include the muscles of the upper thoracic body.

8. (currently withdrawn) The method of claim 1 wherein said method includes:

Isolating muscles by the use of said device.

9. (currently withdrawn) The method of claim 1 wherein said device includes:

a resilient member that is shaped to fit around the neck of a user.

10. (currently withdrawn) The method of claim 1 wherein said device includes:

A bladder that is inflatable to allow adjustment of size and resilience by inflating or deflating said bladder.

11. (currently withdrawn) The method of claim 1 wherein said grasping mechanism includes:

Finger holes for allowing a user to insert their fingers for grasping of said device.

12. (currently amended) A device for allowing training and inhibitory relaxation of neck muscles, said device comprising:

An elongated member shaped to fit around the neck of an individual; and
A grasping mechanism on opposing ends of said elongated member for allowing an individual to grasp said elongated member as said elongated member is wrapped around the neck of the individual
Wherein said elongated member has a resilient portion
Wherein said resilient portion applies contact forces to surfaces of the upper back, neck and lower skull of the individual
Wherein at least some of the contact forces substantially oppose each other.

13. (currently amended) The device of claim 12 wherein said device includes:

Said elongated member having a resilient portion for allowing an individual to stretch their neck muscles over said device.

14. (currently amended) The device of claim 12 wherein said device includes:

An inflatable portion on said elongated member to allow an individual to stretch their neck muscles over said device.

15. (currently amended) The device of claim 12 wherein said device includes:

An inflatable portion on said elongated member to allow an individual to stretch their neck muscles over said device; and
A mechanism to regulate the inflation of said inflatable portion.

16. (currently amended) The device of claim 12 wherein said device includes:

Finger holes formed in said device to allow an individual to grasp the opposing end portions of said elongated member as said device is placed around the neck of the individual.

17. (currently amended) The device of claim 12 wherein said device includes:

A shape that allows lateral motion, forward and backward motion and rotational motion of the neck of the user over said device.

18. (currently amended) A device for allowing training and inhibitory relaxation of neck and upper thoracic muscles of an individual, said device comprising:

An inflatable member shaped to fit around the neck of an individual; and

Finger holes formed on opposing ends of said device to allow an individual to grasp the device with the hands of their arms crossed over the front of their body

Wherein the inflatable member applies contact forces to surfaces of the upper back, neck and lower skull of the individual

Wherein at least some of the contact forces substantially oppose each other.

19. (currently withdrawn) A method for training the neck muscles, said method comprising:

Providing an elastically compressible device for fitting around the neck and over the shoulders of an individual;
providing a mechanism for grasping the ends of said device;
Placing said device around the neck of an individual;
Grasping said mechanism for grasping the ends of said device; and
Contracting neck muscles in such a way that the head and neck move to compress said device so that forces generated by said elastic compression oppose said movement of head and neck.

20. (currently withdrawn) The method of claim 19 wherein said elastically compressible device comprises an air filled bladder.

21. (currently withdrawn) The method of claim 19 wherein said elastically compressible device comprises a bladder made of elastomeric material.

22. (currently withdrawn) The method of claim 19 wherein said step of grasping said mechanism includes:

Crossing arms in front of the chest to grasp said device.

23. (currently withdrawn) The method of claim 19 wherein the outer surface of said device is textured.

24. (currently withdrawn) The method of claim 19 wherein said method further includes the step of:

Said air tight cavity.
Utilizing inhibitory relaxation for treating muscles by contracting one set of neck muscles to relax the opposing set of muscles.

25. (currently withdrawn) The method of claim 19 wherein said step of contracting a first set of muscles includes:

stretching the muscles in forward and backward directions over said device.

26. (currently withdrawn) The method of claim 19 wherein said step of contracting a first set of muscles includes:

stretching the muscles in a rotational direction over said device.

27. (currently withdrawn) The method of claim 19 wherein said muscles include the muscles of the upper thoracic body and neck.

28. (currently amended) A device for allowing exercise of the neck muscles, said device comprising:

An elongated top member
An elongated bottom member

A sealing mechanism for sealing said top member to said bottom member in such a way as to create an air tight cavity
Wherein said airtight cavity can be positioned to apply contact forces to surfaces of the upper back, neck and lower skull of an individual
Wherein at least some of the contact forces substantially oppose each other.

29. (currently amended) The device of claim 28 wherein said device further includes:

a valve mechanism for introducing and trapping air into said air tight cavity.

30. (currently amended) The device of claim 28 wherein said device further includes: a grasping mechanism on opposing ends of said elongated member for allowing an individual to grasp said elongated member as said elongated member is wrapped around the neck of the individual.

31. A resilient neck and upper thoracic spinal region training device for a patient or individual, comprising:

a flexible, resilient, generally elongated member having two ends;

and a means for securing the device around the neck and upper thoracic spinal region

Wherein the resilient member applies contact forces to surfaces of the upper back, neck and lower skull of the individual

Wherein at least some of the contact forces substantially oppose each other.

32. (currently amended) The device of claim 31. wherein the means for securing includes an extended member at each end.

33. (currently amended) The device of claim 31 wherein the elongated member is inflatable.

34. (currently amended) The device of claim 32 wherein one or more extended members further includes one or more voids.

35. (currently amended) The device of claim 31 wherein the elongated member further comprises a top portion and a bottom portion, and the bottom portion includes curvature for fitting around a patient's neck and upper thoracic spinal region.

36. (currently amended) The device of claim 35 wherein the curvature includes a central bulge.

37. (currently amended) The device of claim 35 wherein the curvature includes a recess at each end.

38. (currently amended) The device of claim 31 wherein the elongated member comprises material having a low spring constant.

39. (currently amended) An elastically compressible neck and upper thoracic spinal region training device for ~~a patient~~ an individual, comprising:

Means for providing reciprocal inhibition of primary mover muscles; and

Means for isolating core stabilizer musculature of the neck and upper thoracic spine for strengthening

Means for applying contact forces to the lower skull, neck and upper thoracic region

Wherein at least some of the contact forces substantially oppose each other to cause a partial tractioning effect on the neck.

40. (currently amended) The device of claim 39 wherein the device is inflatable.

41 (currently amended) The device of claim 39 wherein the device further comprises a low spring constant material.

42. (currently amended) The device of claim 40. wherein the device further comprises a plurality of separately inflatable compartments.

43. (currently amended) An effective, low cost, easy to manufacture device for promoting strength and flexibility in deep postural muscles in ~~a patient~~ an individual comprising:

An elongated member having a low spring coefficient and two ends; and

Handhold means for securing the device located on either end of the elongated member

Wherein the device can be secured so as to apply contact forces to the lower skull, neck and upper spinal region of an individual

Wherein at least some of the contact forces substantially oppose each other to cause a partial tractioning effect on the neck.

44. The device of claim 43 wherein the elongated member further includes a top end and a bottom end; and the bottom end includes a protuberance adapted for a patient's upper thoracic spinal region.

45. The device of claim 44 wherein the bottom end further comprises arcuate recesses complimentary to the patient's shoulders.